

Dominant men make decisions faster

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Hierarchies exist across all human and animal societies, organized by what behavioral scientists refer to as dominance. Dominant individuals tend to climb higher up the hierarchy ladder of their particular society, earning priority access to resources.

But [dominance](#) itself depends partly on the ability to make decisions faster than others. This allows the individual to act first in social situations, which might confer an evolutionary advantage. However, behavioral scientists do not know whether dominant individuals show this fast decision-making outside of social contexts.

Now, the labs of Carmen Sandi and Michael Herzog at EPFL have carried out a large behavioral study on men to examine this question. The study shows a clear correlation between higher social dominance and faster decision-making outside of a social competition context.

The study involved 240 male students at EPFL and the University of Lausanne (UNIL). The men were sorted into high or low dominance groups by a standard "dominance scoring" questionnaire that has been validated in many previous studies. Decision-making speed was measured with five experiments ("tasks") testing the participants' memory, recognition, ability to distinguish emotions, route-learning, and responsiveness.

The first task involved discriminating between emotions seen on various pictures of faces. Then they moved onto a memory and recognition task, where they were asked to remember and recognize a series of faces. The third experiment had the participants work on learning and remembering a route, and the fourth, a control experiment, had the participants hit the spacebar on a keyboard as soon as they saw a grey square appear on a screen. In this part of the study, neither group appeared to be faster than the other.

The scientists then carried out a fifth experiment to identify neural signals that might show differences in promptness to respond between high- and low- dominance participants. To do this, the researchers measured brain signals with a high-density electroencephalogram (EEG). The participants were asked to distinguish between happy and sad faces

and then angry and neutral faces, while the EEG measured how their brains' electrical signal changed in relation to how fast or slow they performed each task.

This part of the study found that promptness to respond in high-dominance men than in low-dominance men was accompanied by a strikingly amplified brain signal around 240 milliseconds after seeing the faces. In addition, when the researchers analyzed the EEG images of the high-dominance participants, they identified a higher activity in areas of the brain associated with emotion and behavior, compared to low-dominance participants.

The study suggests that high-dominant men respond faster in situations where a choice is needed, regardless of social context. This promptness in decision-making can act as a "biomarker" for social disposition.

"In the future, it will be important to find out whether even stronger [brain](#) signals are observed in particularly dominant individuals, such as CEOs," says Carmen Sandi. "It will also be relevant to understand whether these differences in promptness to respond and [brain signals](#) are also observed in women that differ in dominance and whether they are already present in children. Our findings may open a new research approach using EEG signatures as a measure for social dominance."

More information: Janir da Cruz et al. Dominant men are faster in decision-making situations and exhibit a distinct neural signal for promptness, *Cerebral Cortex* (2018). [DOI: 10.1093/cercor/bhy195](https://doi.org/10.1093/cercor/bhy195)

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